

acid treatment" as I have not tried it, for the reason that the serum treatment carried out in this way, in cases in which the incubation period is seven days or longer, seems to give better results than any I have heard of with any other form of treatment. I certainly agree that morphine should be used very sparingly.—I am, etc.,

Boulogne, Jan. 5th.

FREDK. C. DAVIES, M.R.C.P.

CEREBRAL LOCALIZATION.

SIR,—In your issue of January 9th, in a review of a work of Monakow's, occur some observations in regard to Broca's convolution and aphasia which interest me deeply.

For generations past students in medical schools and universities all over the world have been taught the story of centres of localization, that of Broca being cited always as the triumphant proof of the theory involved. Even as a student I ventured to doubt this theory, though I made, as I make now, a clear distinction between Broca's observed facts and the interpretations which he and his followers have given to them. The researches of Monakow and Marie and others have modified our ideas even with regard to the facts, but that, I submit, is not the pith of the matter. In prosecuting the studies of which the outcome has been my *Psychology: A New System*, I submitted to rigorous examination the whole theory of localization, and I concluded that certain of the underlying notions were as crude and fallacious as those of the phrenology of Gall and Spurzheim; and, indeed, in pursuing my researches into the history of the subject I ascertained that they were the lineal descendants of Gall's conceptions.

On purely psychological grounds I showed that the question had been so badly posed that we could not even answer it in terms of the localization of speech in Broca's convolution, or even as to whether a lesion in Broca's convolution is the cause of aphasia. I pointed out in what way we must render both more extensive, more organized, and yet more precise, our notions of the meaning of "word," or again of "localization." I endeavoured to make it clear that in every process of thought the function of the brain as a whole is involved, even though that should appear in diverse regions in the form of inhibitions or of other correlated conditions. Here I but roughly indicate what I have set forth in detail in my chapter on localization of functions.

Subsequently to the completion of the book, I became acquainted with the researches of Marie and the deductions he had drawn from them, and I was able to claim these as the confirmation of my theory. Not long ago I had the pleasure of hearing this confirmation from the lips of Marie himself, in a discourse in which profound scientific knowledge was associated with what is more rare—lucidity of thought. And the confirmation did not merely reach to the extent of a rectification of the Broca position, but satisfied what I had set forth as the true doctrine in regard to the conception of "localization" itself.

I beg, therefore, to bring this matter to the notice of your readers, for it is the only instance I know of in the history of psychology where on purely psychological grounds a concrete result of this kind has been obtained. In the book it occurs as an illustration in discussing the general position in regard to the relations of physiology to psychology; and that again is subsidiary to the main purpose of the work, which is to set forth and expound the *Fundamental Processes* of the human mind.—I am, etc.,

January 11th.

ARTHUR LYNCH.

The Services.

MEDICAL STUDENTS IN THE REGULAR ARMY.

THE circular letter issued to general officers commanding in chief by the War Office on November 28th, 1914 (BRITISH MEDICAL JOURNAL, January 2nd, p. 24), with regard to releasing medical students who desire to continue their studies in order to qualify as medical practitioners, referred only to the medical units of the Territorial Force. In the case of students who joined the regular army under the conditions of the Army Order issued early in August, there is no special arrangement therein for their release; a student desiring to be released should submit an application through the commanding officer to be allowed to resume his studies. Each case will be dealt with on its merits.

TEMPORARY COMMISSIONS AND FUTURE EMPLOYMENT.

WE have been asked whether a medical man now accepting a temporary commission in the R.A.M.C. could obtain a permanent commission when the war was over and remain in the R.A.M.C., qualifying for pension. We understand that no such arrangement at present exists. This, however, does not preclude such an arrangement being made in the future. In that event it would be probable that the usual age limit of 28 would be varied.

INDIAN MEDICAL SERVICE.

THE following technical courses of study in India shall, when undergone by officers of the Indian Medical Service, be reckoned to the extent noted against each as "study" towards the total period necessary to qualify for accelerated promotion to the rank of major, provided that the officers pass "with proficiency" the examinations at their conclusion.

1. X-ray course, Dehra Dun, three months.
2. Short bacteriological course at Kausali, one month.
3. Malarial course at the malarial bureau, one month.
4. Long bacteriological course at Kasauli (according to the duration of the course), three to six months.

Obituary.

THE LATE COLONEL D. D. CUNNINGHAM.

COLONEL KENNETH MACLEOD, I.M.S. (retired list), desires to add to the excellent obituary notice of the late Colonel David Douglas Cunningham, I.M.S., which appeared in the last issue of the BRITISH MEDICAL JOURNAL the following appreciative note, founded on many years' personal acquaintance:

Dr. Cunningham was a typical Scotsman—in feature, physique, disposition, character, and mental traits. He was somewhat reserved and difficult of approach, but, his friendship once gained, he was warm-hearted and staunch. He was loyal, straightforward, and manly, and resented a cad, a sneak, or a humbug. His intellectual gifts were sound and solid. He was persevering and systematic in his work; patient and exhaustive in research; scrupulously accurate and honest in reporting; ingenious in devising methods and thoughtful in interpreting results; keen in observation, cautious in deduction, and inclined rather to doubt than speculate. His early labours in India were devoted to investigating the value of hypotheses regarding cholera causation started by Helliér and others. Their outcome being of a negative character, much of his work was destructive, and the critical habit thus acquired probably accounts for the fact that no positive discovery of importance can be associated with his name. He warmly espoused Pettenkofer's views, and advanced many facts in support of them drawn from Indian observation. His reports and writings were admirably clear and systematic. He was a great reader, and loved to indulge in philosophical speculation, following Kant and Hegel. He had a good use of his pencil, as well as of his pen, and his reports are illustrated by neatly drawn diagrams and plates. His life in India was devoted rather to scientific than professional pursuits, and his recreations were largely concerned with the study of plants and animals and the discovery of the adaptation of their habits to their environment. In retirement he occupied himself in literary pursuits, and was keenly fond of gardening. Cunningham was an able and industrious, rather than an original and brilliant, man. He performed excellent work for the Indian Government, and promoted physiological and pathological science in many ways. His memory will be preserved and honoured by numerous friends, both European and native.

J. A. R. writes: Allow me to correct the obituary notice of Colonel David Douglas Cunningham, C.I.E., M.B., F.R.S., in the JOURNAL of January 9th. His brother is Emeritus Professor Robert O. Cunningham, M.D., the zoologist, who is happily still with us although retired from his chair at Belfast, and not, as stated, the late Professor Daniel John Cunningham, the anatomist, who was the son of the Rev. Principal of St. Mary's, University of St. Andrews. As David's father was also a clergyman with a reputation for learning, the mistake was natural.

DR. JOHN ROBINSON of Runcorn, who died recently at the age of 78, was a man of marked personality and a fine type of the old-fashioned general practitioner. He was the